Embedded Device Servers

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Embedded Device Servers

Embedded Device Servers

	MiiNePort E2/E2-T MiiNePort E2-H/E2-H-T	MiiNePort E3/E3-T MiiNePort E3-H/E3-H-T	NE-4110S	NE-4110A	NE-4120S	NE-4120A	NE-4100T	MiiNePort W1/W1-T
Form Factor								
Type	Drop-in module	Pin header module					Drop-in module	
Dimensions	29 x 17 x 12.6 mm	35 x 52.5 x 18 mm	57 × 40 mm	57 × 40 mm	57 × 40 mm	57 × 40 mm	45 × 36 mm	44.4 x 44.4 mm
Ethernet Interface								
10/100BaseT(X) Ports	1	1	1	1	1	1	1	1
Connector	4-pin pin header	RJ45	RJ45	RJ45	5-pin pin header		26-pin dual-in-line	–
Magnetic Isolation Protection	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV
WLAN Interface								
Standard Compliance	–	–	–	–	–	–	–	IEEE 802.11b/g
Radio Frequency Type	–	–	–	–	–	–	–	DSSS, CCK, OFDM
Wireless Security	–	–	–	–	–	–	–	AES, WEP, WPA, WPA2, PSK, 802.11i
Network Modes	–	–	–	–	–	–	–	Infrastructure mode (b/g), Ad-Hoc mode (b/g)
Serial Interface								
TTL Ports	1 (data port)		1 (console port)				2 (1 data port, 1 console port)	1 (data port)
RS-232 Ports	–	–	1 (data port)	–	1 (data port)	–	–	–
RS-422/485 Ports	–	–	–	1 (data port)	–	1 (data port)	–	–
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark							Data Bits: 7, 8; Stop Bits: 1, 2; Parity: None, Even, Odd
Flow Control	RTS/CTS, DTR/DSR, XON/XOFF		RTS/CTS, XON/XOFF					
Baudrate	MiiNePort E2: 50 bps to 230.4 Kbps (non-standard baudrates supported) MiiNePort E2-H: 50 bps to 921.6 Kbps (non-standard baudrates supported)	MiiNePort E3: 50 bps to 230.4 Kbps (non-standard baudrates supported) MiiNePort E3-H: 50 bps to 921.6 Kbps (non-standard baudrates supported)	110 bps to 230.4 Kbps					50 bps to 921.6 Kbps
Programmable GPIO Pins	4							–
Software								
Network Protocols	ICMP, ARP, IP, TCP, UDP, DHCP, HTTP, SNMP V1, SMTP, TFTP, Auto IP, Telnet, BOOTP		ICMP, ARP, IP, TCP, UDP, DHCP, Telnet, HTTP, SNMP V1/V2c, SMTP					ICMP, IP, TCP, UDP, DHCP, Telnet, DNS, SNMP V1/V2c/V3, HTTP, SMTP, SNTP, SSH, HTTPS
Configuration Options	Web/Serial/Telnet Console, Windows Search Utility							
Serial Command Mode	✓	✓	✓	✓	✓	✓	✓	✓
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64, Embedded CE 5.0/6.0, XP Embedded							
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x							
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.0.x							
Operation Modes	TCP Server, TCP Client, UDP, Real COM, Ethernet Modem, RFC2217		Real COM, TCP Server, TCP Client, UDP					Real COM, TCP Server, TCP Client, UDP, RFC2217
NetEZ Technology	EZPower, EZPage, SCM, AutoCFG, MCSC	EZPower, EZPage, SCM, AutoCFG	–	–	–	–	–	–
Environmental Limits								
Operating Temparture — Standard Temperature	0 to 55°C							
Operating Temparture — Wide Temperature	-40 to 85°C		-40 to 75°C					-40 to 85°C
Operating Humidity	5 to 95% (non-condensing)							
Storage Temperature	-40 to 60°C							
Power Requirements								
Input Voltage	3.3 to 5 VDC (±5%)		5 VDC (±5%)	5 VDC (±5%)	5 VDC (±5%)	5 VDC (±5%)	5 VDC (±5%)	3.3 to 5 VDC (±5%)
Power Consumption	140 mA @ 3.3 VDC, 92 mA @ 5 VDC input max.	157 mA @ 3.3 VDC, 119 mA @ 5 VDC input max.	290 mA @ 5 VDC max.					400 mA @ 3.3 VDC, 330 mA @ 5 VDC input max.
Standards and Certifications								
Safety	–							UL 60950-1, EN 60950-1
EMC	CE, FCC							
EMI	EN 55022 Class B, FCC Part 15 Subpart B Class B		EN 55022 Class B, FCC Part 15 Subpart B Class A					EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS	EN 55024, EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (EFT), EN 61000-4-5 (Surge), EN 61000-4-6 (CS), EN 61000-4-8, EN 61000-4-11							
Radio	–	–	–	–	–	–	–	EN 301 489, EN 300 328, EN 300 893, FCC 15C, EN 61121/EN 500 385
Shock	IEC-68-2-27	IEC-68-2-27	–	–	–	–	–	IEC-68-2-27
Freefall	IEC-68-2-34, IEC-68-2-32	IEC-68-2-34, IEC-68-2-32	–	–	–	–	–	IEC-68-2-34, IEC-68-2-32
Vibration	IEC-68-2-6	IEC-68-2-6	–	–	–	–	–	IEC-68-2-6
Green Product	RoHS, CRoHS, WEEE							
Reliability								
Watchdog Timer	✓	✓	✓	✓	✓	✓	✓	✓
MTBF	5,696,350 hrs	3,608,031 hrs	290,276 hrs	289,573 hrs	289,573 hrs	289,573 hrs	288,173 hrs	–
Warranty	5 years (see www.moxa.com/warranty)							

Embedded Device Servers Software Development Kit

	MiiNePort E2-SDK
Form Factor	
Type	Drop-in module
Dimensions	29 x 17 x 12.6 mm
Ethernet Interface	
10/100BaseT(X) Ports	1
Connector	6-pin pin header
Magnetic Isolation Protection	1.5 KV
Serial Interface	
TTL Ports	1 (data port)
RS-232 Ports	–
RS-232/422 Ports	–
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark
Flow Control	RTS/CTS, XON/XOFF
Baudrate	MiiNePort E2: 50 bps to 230.4 Kbps (non-standard baudrates supported) MiiNePort E2-H: 50 bps to 921.6 Kbps (non-standard baudrates supported)
Programmable GPIO Pins	4
Software	
Network Protocols	ICMP, ARP, IP, TCP, UDP, DHCP, HTTP, SNMP V1, SMTP, TFTP, Auto IP, Telnet, BOOTP
Software Development Tool	MiiNePort-IDE
Search/Upload Options	Windows Search Utility
Wizard	Project/SNMP/Telnet/SCM/User Configuration
Windows Real COM Drivers	Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64, Embedded CE 5.0/6.0, XP Embedded
Fixed TTY Drivers	SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x
Linux Real TTY Drivers	Linux 2.4.x, 2.6.x, 3.0.x
Operation Modes	Real COM, Ethernet Modem
Serial/Ethernet Test Tool	PComm Lite
Environmental Limits	
Operating Temparture	0 to 55°C
Operating Humidity	5 to 95% (non-condensing)
Storage Temperature	-40 to 75°C
Power Requirements	
Input Voltage	3.3 to 5 VDC (±5%)
Power Consumption	140 mA @ 3.3 VDC input max., 92 mA @ 5 VDC input max.
Standards and Certifications	
Safety	–
EMC	CE, FCC
EMI	EN 55022 Class B, FCC Part 15 Subpart B Class B
EMS	EN 55024, EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (EFT), EN 61000-4-5 (Surge), EN 61000-4-6 (CS), EN 61000-4-8, EN 61000-4-11
Radio	–
Shock	IEC-68-2-27
Freefall	IEC-68-2-34, IEC-68-2-32
Vibration	IEC-68-2-6
Green Product	RoHS, CRoHS, WEEE
Reliability	
Watchdog Timer	✓
MTBF	5,696,350 hrs
Warranty	5 years (see www.moxa.com/warranty)

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Embedded Device Servers ﹀ Product Selection Guide

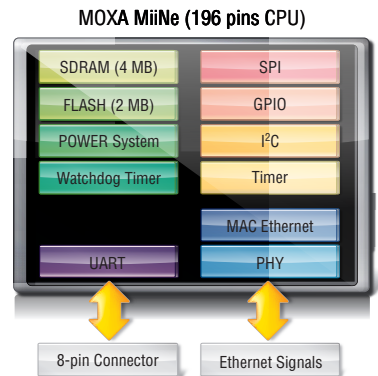# Go Ethernet with Thumb-sized Serial-to-Ethernet Solutions

Are you concerned about cost, design flexibility, and power consumption? Moxa understands what you need! To serve this demand, Moxa developed the MiiNePort series family, the world's tiniest and most innovative embedded serial-to-Ethernet device server.

Moxa's MiiNePort series embedded device servers are designed for manufacturers who want to add sophisticated network connectivity to their serial devices with minimal integration effort.

⠿ The MiiNe is a Lean yet Powerful Serial-to-Ethernet Solution

Moxa's second generation SoC, the MiiNe, was created to provide device manufacturers with a competitive embedded serial-to-Ethernet solution. The MiiNePort embedded device server, which uses the MiiNe for its SoC, is the world's tiniest embedded device server, and has the lowest power consumption of similar products. The MiiNe SoC has the following features:

- Designed for 1 or 2-port serial-to-Ethernet applications
- Uses a 32-bit ARM core
- Uses Moxa's advanced UART technology
- Has 2 MB Flash and 4 MB SDRAM memory built in

MOXA MiiNe (196 pins CPU)

SDRAM (4 MB)	SPI
FLASH (2 MB)	GPIO
POWER System	I²C
Watchdog Timer	Timer
	MAC Ethernet
UART	PHY

8-pin Connector · Ethernet Signals

Powered by the MiiNe, Moxa's 2nd generation SoC, the MiiNePort makes your device more powerful and cost-effective.
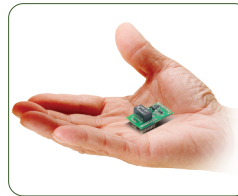
As the world's smallest serial-to-Ethernet module, the thumb-sized MiiNePort maximizes your design flexibility.
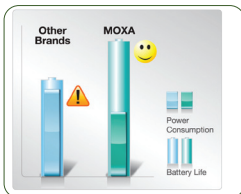
Want to minimize the power consumption of your device while maximizing its strength? The MiiNePort can help.


Moxa's NetEZ technology gives serial device manufacturers a range of powerful tools for integrating Ethernet capability into serial devices.

Introduction to Embedded Device Servers

Embedded device servers give serial device manufacturers a cost-effective means of making serial devices network-ready. Moxa provides a wide range of embedded device servers with products available to provide either wired or wireless Ethernet communication capability. With Moxa's embedded device servers, device manufactures can easily turn their legacy serial devices into network devices with a minimum of investment and effort. In fact, since TCP/IP expertise is not required, time-to-market can be reduced to the three to six month range. Compared with other solutions on the market, Moxa's embedded device server products give serial device manufacturers ready access to a unique set of features:

- Different form factors for different installation types
- Versatile, ready-to-use operation modes
- Thumb-sized footprint minimizes overall device size
- Low power consumption maximizes device system stability
- NetEZ technology makes device manufacturers' job and life easier

MOXA® ▸ www.moxa.com ▸ info@moxa.com
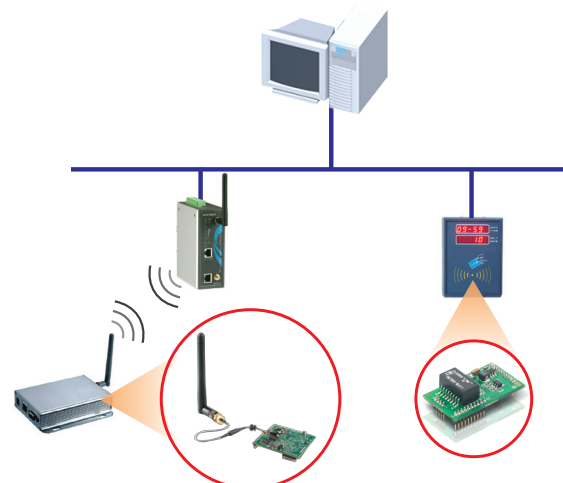
: Different form factors for different installation types

Drop-in Form Factor: Drop-in modules come with DIP pins or pin-headers to make assembly easy. This kind of module has a smaller footprint, and is perfect for device manufacturers who have size concerns for their devices.

Moxa's Drop-in Modules: MiiNePort E2, NE-4100T, MiiNePort W1.

Stand-alone Form Factor: Stand-alone modules come with pin-headers and screw mounting holes for device manufactures to connect and fix the modules to the device's main board. This kind of module has a bigger footprint compared to the drop-in form factor, but still provides sufficient flexibility for placing the module in the device without making large changes to the device's original main board design.

Moxa Stand-alone Modules: MiiNePort E3, NE-4110, NE-4120.

: NetEZ Technology

NetEZ™
It's That Easy ! SCM | AutoCFG | MCSC | EZPower | EZPage

Moxa's NetEZ technology gives serial device manufacturers a range of powerful tools for integrating Ethernet capability into serial devices:

- **EZPage:** Need a module that allows direct communication with the attached serial device? Use the MiiNePort's EZPage Java Applet to create a visual webpage for configuring and communicating with the attached serial device.
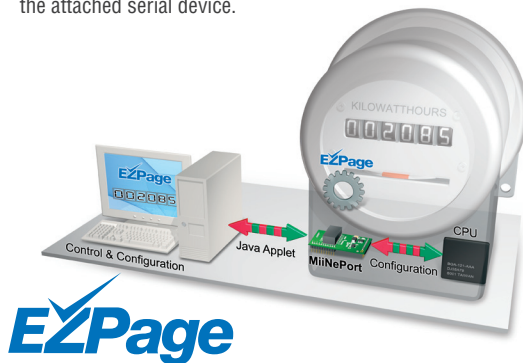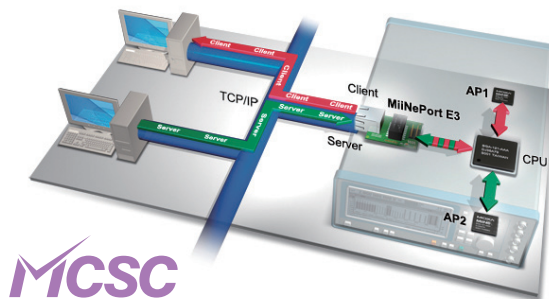
- **EZPower:** Need a module that provides a versatile system power input voltage? Use the MiiNePort's EZPower to switch automatically between a 3.3 and 5 VDC system power input.

EZPage
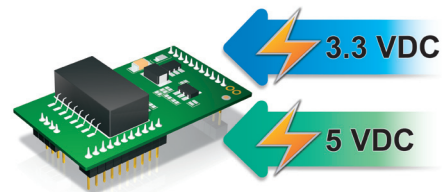
EZPower

- **MCSC:** Ever wanted your device to be a server and client at the same time? The MiiNePort's MCSC (Multi-channel Serial Communication) provides dual connections and dual channels for multi-task applications.

- **AutoCFG:** Tired of spending a large amount of time and effort setting up a network? Not anymore! The MiiNePort's AutoCFG makes auto-configuration during manufacturing possible.

MCSC

AutoCFG

- **SCM:** Need an easy tool to configure the network through serial communication inside the device? Try MiiNePort's friendly SCM (Serial Command Mode).

SCM

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Embedded Device Servers > Go Ethernet with Thumb-sized Serial-to-Ethernet Solutions

MiiNePort E2 Series

10/100 Mbps embedded serial device servers

> Smallest embedded device server available—only 29 x 17 x 12.6 mm
> EZPower for 3.3 to 5 VDC system power input supported
> Extremely low power consumption—only 140 mA @ 3.3 VDC or 92 mA @ 5 VDC
> Uses the MiiNe- Moxa's second generation SoC
> Simple integration with NetEZ technology
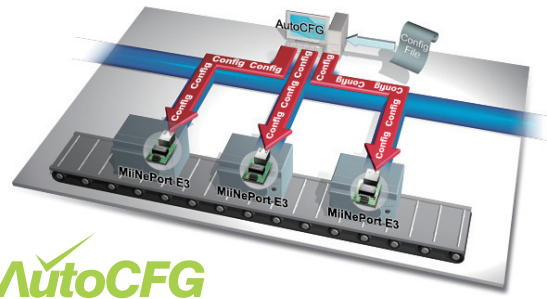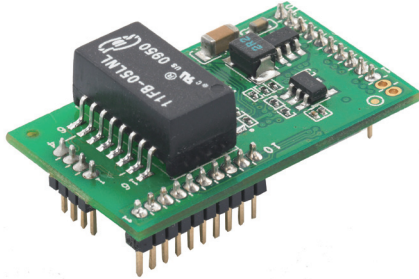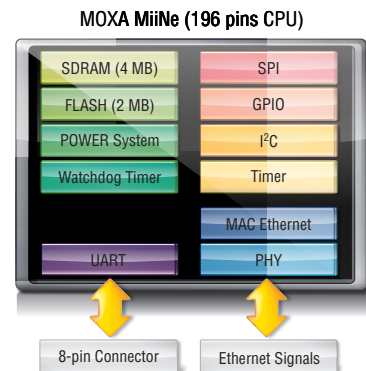> Operation versatility with Real COM/TCP/UDP/RFC2217/MCSC

⠿ Overview

Moxa's MiiNePort E2 series embedded device servers are designed for manufacturers who wanting add sophisticated network connectivity to their serial devices with minimal integration effort. The MiiNePort E2 is empowered by the MiiNe, Moxa's second generation SoC, which supports 10/100 Mbps Ethernet, delivers a serial baudrate of up to 921.6 Kbps, offers a versatile selection of ready-to-use operation

modes, and requires a minimal amount of power. With Moxa's innovative NetEZ technology, the MiiNePort E2 can convert any device with a standard serial interface to an Ethernet-enabled device. In addition, the MiiNePort E2 is the smallest embedded device server without an RJ45 connector, making it easy to fit into virtually any existing serial device.

⠿ The MiiNe—Moxa's 2nd Generation SoC

MiiNe

The MiiNe was created to provide manufacturers with a competitive embedded serial-to-Ethernet solution. The MiiNePort E2, which uses the MiiNe for its SoC, is one of the world's tiniest embedded device servers, and has the lowest power consumption of similar products. The MiiNe's features include:

- Cost-effective serial-to-Ethernet conversions
- ARM core
- Advanced UART technology
- Internal 2 MB Flash and 4 MB SDRAM memory

MOXA MiiNe (196 pins CPU)

SDRAM (4 MB)	SPI
FLASH (2 MB)	GPIO
POWER System	I²C
Watchdog Timer	Timer
	MAC Ethernet
UART	PHY

8-pin Connector   Ethernet Signals

⠿ Specifications

Form Factor
Type: Drop-in module
Dimensions: 29 x 17 x 12.6 mm (1.14 x 0.67 x 0.50 in)
Weight: 5 g

System Information
CPU: 32-bit ARM Core
RAM: 4 MB built in
Flash: 2 MB built in

Ethernet Interface
Number of Ports: 1
Speed: 10/100 Mbps, auto MDI/MDIX
Connector: 6-pin pin header
Magnetic Isolation Protection: 1.5 KV built-in

Serial Interface
Number of Ports: 1
Transmission Format: Standard TTL

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, DTR/DSR, XON/XOFF
Baudrate: (non-standard baudrates supported)
MiiNePort E2: 50 bps to 230.4 Kbps
MiiNePort E2-H: 50 bps to 921.6 Kbps

Serial Signals
TTL: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RST (reset circuit), GND

Digital I/O Pins
GPIO: 4 programmable I/O pins

Software
Network Protocols: ICMP, ARP, IP, TCP, UDP, DHCP, HTTP, SNMP V1, SMTP, TFTP, Auto IP, Telnet, BOOTP

Configuration Options: Web Console, Serial Console (Serial Command Mode), Telnet Console, Windows Utility

Windows Real COM Drivers: Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64, Embedded CE 5.0/6.0, XP Embedded

Fixed TTY Drivers: SCO Unix, SCO OpenServer, UnixWare 7, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x

Linux Real TTY Drivers: Linux kernel 2.4.x, 2.6.x, 3.0.x

Operation Modes: Real COM, TCP Server, TCP Client, UDP, Ethernet Modem, RFC2217, MCSC

Environmental Limits

Operating Temperature:
Standard Models: 0 to 55°C (32 to 131°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Storage Temperature: -40 to 60°C (-40 to 140°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements

Input Voltage: 3.3 to 5 VDC (±5%)
Power Consumption: 140 mA @ 3.3 VDC, 92 mA @ 5 VDC input max.

Standards and Certifications

EMC: CE, FCC
EMI: EN 55022 Class B, FCC Part 15 Subpart B Class B
EMS:
EN 55024,
EN 61000-4-2 (ESD),
EN 61000-4-3 (RS),
EN 61000-4-4 (EFT),
EN 61000-4-5 (Surge),
EN 61000-4-6 (CS),
EN 61000-4-8,
EN 61000-4-11
Shock: IEC-68-2-27
Freefall: IEC-68-2-34, IEC-68-2-32
Vibration: IEC-68-2-6
Green Product: RoHS, CRoHS, WEEE

Reliability

MTBF (mean time between failures): 5,696,350 hrs

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)

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Embedded Device Servers ∨ Go Ethernet with Thumb-sized Serial-to-Ethernet Solutions

Pin Assignment

JP1			JP2			JP3		
Pin	Signal Name	Function	Pin	Signal Name	Function	Pin	Signal Name	Function
1	Ethernet Tx+	Ethernet Transmit Data+	1	100M LED	Ethernet 100M LED	1	DIO0	Programmable Input/Output
2	Ethernet Tx-	Ethernet Transmit Data-	2	10M LED	Ethernet 10M LED	2	DI02	Programmable Input/Output
3	Ethernet Rx+	Ethernet Receive Data+	3	LRXD	Receive Serial Data	3	DI03	Programmable Input/Output
4	Ethernet Rx-	Ethernet Receive Data-	4	LTXD	Transmit Serial Data	4	DI01	Programmable Input/Output
			5	LDCD	Data Carrier Detect	5	Reserved	N/A
			6	RS485_EN	RS-485 Enable	6	Reserved	N/A
			7	LRTS	Request To Send	7	SW_Reset	Reset to Factory Default
			8	LDTR	Data Terminal Ready	8	GND	Circuit Ground
			9	LDSR	Data Set Ready	9	Ready LED	System is Ready LED
			10	LCTS	Clear To Send	10	VCC	Power Supply

MOXA MiiNe
MPA702-I-V0B
D6A328.00S-1
0936

Ordering Information

Available Modules

MiiNePort E2: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 230.4 Kbps baudrate, 0 to 55°C operating temperature

MiiNePort E2-H: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 921.6 Kbps baudrate, 0 to 55°C operating temperature

MiiNePort E2-T: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 230.4 Kbps baudrate, -40 to 85°C operating temperature

MiiNePort E2-H-T: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 921.6 Kbps baudrate, -40 to 85°C operating temperature

Available Starter Kits

MiiNePort E2-ST: Starter kit for the MiiNePort E2 Series, module included
MiiNePort E2-H-ST: Starter kit for the MiiNePort E2-H Series, module included

Optional Accessories (can be purchased separately)

Female Socket Connectors: Includes one 1x4 DIP, two 1x10 DIP

Female Socket Connectors

Package Checklist (modules)

- MiiNePort E2 module
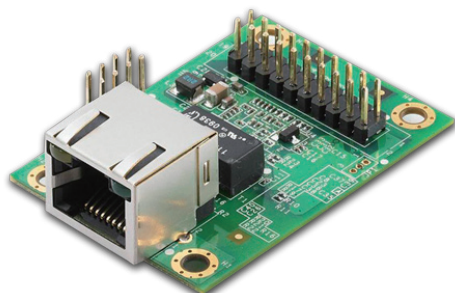
Package Checklist (starter kits)

- MiiNePort E2 module
- MiiNePort E2 evaluation board
- Universal power adaptor
- 2 power cords
- Null modem cable
- Cross-over Ethernet cable
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card
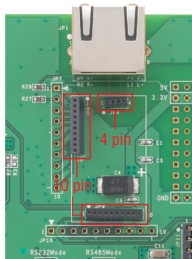
MiiNePort E3 Series

10/100 Mbps embedded serial device servers

> IEEE 802.3af compliant PoE pass-through
> Use Moxa's high quality and reliable second generation MiiNe SoC
> Versatile choice of operation modes fulfill specific application requirements
> Green design with extremely low power consumption
> MiiNePort NetEZ Technology makes integration incredibly easy
> Highly compact embedded device module

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Overview

Moxa's MiiNePort E3 series embedded device servers are designed for manufacturers who want to add sophisticated network connectivity to their serial devices with minimal integration effort. The MiiNePort E3 is empowered by the MiiNe, Moxa's second generation SoC, which supports 10/100 Mbps Ethernet, up to 921.6 Kbps serial baudrate, a versatile selection of ready-to-use operation modes, and requires only a small amount of power. By using Moxa's innovative NetEZ technology, the MiiNePort E3 can be used to convert any device with a standard serial interface to an Ethernet enabled device in no time. In addition, the MiiNePort E3 is a compact embedded device server with an RJ45 connector, making it easy to fit into virtually any existing serial device.
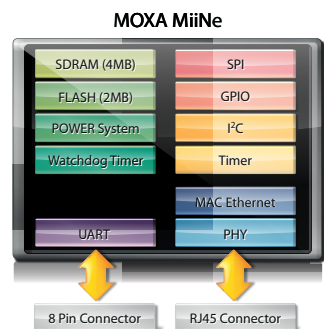
The MiiNe—Moxa's 2nd Generation SoC

MiiNe

The MiiNe was created to provide manufacturers with a competitive embedded serial-to-Ethernet solution. The MiiNePort E3, which uses the MiiNe for its SoC, is a compact embedded device server that has the lowest power consumption of similar products. The MiiNe has the following features:

- Designed for serial-to-Ethernet applications
- Uses an ARM core
- Uses Moxa's own advanced UART technology
- 2 MB Flash and 4 MB SDRAM memory built in

MOXA MiiNe

SDRAM (4MB)	SPI
FLASH (2MB)	GPIO
POWER System	I²C
Watchdog Timer	Timer
	MAC Ethernet
UART	PHY

8 Pin Connector   RJ45 Connector

Specifications

Form Factor
Type: Pin header module
Dimensions: 35 x 52.5 x 18 mm (1.38 x 2.07 x 0.71 in)
Weight: 12 g

System Information
CPU: 32-bit ARM Core
RAM: 4 MB built in
Flash: 2 MB built in

Ethernet Interface
Number of Ports: 1
Speed: 10/100 Mbps, auto MDI/MDIX
Connector: RJ45 (magnetic)
Magnetic Isolation Protection: 1.5 KV built-in
LEDs: 10BASE-T & 100BASE-TX Link Activity

Serial Interface
Number of Ports: 1
Transmission Format: Standard TTL

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, DTR/DSR, XON/XOFF
Baudrate: (non-standard baudrates supported)
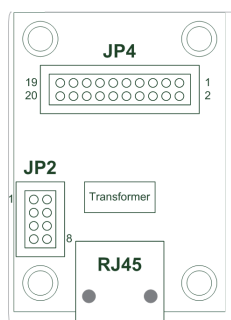MiiNePort E3: 50 bps to 230.4 Kbps
MiiNePort E3-H: 50 bps to 921.6 Kbps

Serial Signals
TTL: TxD, RxD, RTS, CTS, RST (reset circuit), GND

Digital I/O Pins
GPIO: 4

Software
Network Protocols: ICMP, ARP, IP, TCP, UDP, DHCP, HTTP, SNMP V1, SMTP, TFTP, Auto IP, Telnet, BOOTP
Configuration Options: Web Console, Serial Console (Serial Command Mode), Telnet Console, Windows Utility
Windows Real COM Drivers: Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64, Embedded CE 5.0/6.0, XP Embedded
Fixed TTY Drivers: SCO Unix, SCO OpenServer, UnixWare 7, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x
Linux Real TTY Drivers: Linux kernel 2.4.x, 2.6.x, 3.0.x
Operation Modes: Real COM, TCP Server, TCP Client, UDP, Ethernet Modem, RFC2217

Environmental Limits
Operating Temperature:
Standard Models: 0 to 55°C (32 to 131°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Storage Temperature: -40 to 60°C (-40 to 140°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements
Input Voltage: 3.3 to 5 VDC (±5%)
Power Consumption: 157 mA @ 3.3 VDC, 119 mA @ 5 VDC input max.

Standards and Certifications
EMI: EN 55022 Class B, EN 61000-3-2, EN 61000-3-3
EMS:
EN 55024,
EN 61000-4-2 (ESD),
EN 61000-4-3 (RS),
EN 61000-4-4 (EFT),
EN 61000-4-5 (Surge),
EN 61000-4-6 (CS),
EN 61000-4-8,
EN 61000-4-11
Shock: IEC-68-2-27
Vibration: IEC-68-2-6

Reliability
MTBF (mean time between failures):
3,608,031 hrs

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)

Pin Assignment

Ethernet Pins (JP2)			Serial Pins and Power Pins (JP4)					
Pin	Signal Name	Function	Pin	Signal Name	Function	Pin	Signal Name	Function
1	Reserve	N/A	1	Serial Rx	Receive Serial Data	11	DTR	Data Terminal Ready
2	Reserve	N/A	2	Ready LED	System To Ready LED	12	Reserve	N/A
3	Reserve	N/A	3	Serial Tx	Transmit Serial Data	13	LDSR	Data Set Ready
4	Reserve	N/A	4	GPIO	Programmable I/O	14	Reserve	N/A
5	POE signal pair 1	PoE Power from Tx signal	5	LDCD	Data Carrier Detect	15	LCTS	Clear To Send
6	POE spare pair 1	PoE Power from RJ45 4, 5 pin	6	GPIO	Programmable I/O	16	SW_Reset	Reset to factory default
7	POE signal pair 2	PoE Power from Rx signal	7	RS485_ EN0	RS-485 Enable	17	Reserve	N/A
8	POE spare pair 2	PoE Power from RJ45 7, 8 pin	8	GPIO	Programmable I/O	18	Reserve	N/A
			9	LRTS	Request To Send	19	GND	Circuit Ground
			10	GPIO	Programmable I/O	20	VCC	Power Supply

Ordering Information

Available Modules

MiiNePort E3: Embedded device server for TTL devices, pin header module, 10/100M with RJ45 connector, 50 bps to 230.4 Kbps baudrate, 0 to 55°C operating temperature

MiiNePort E3-H: Embedded device server for TTL devices, pin header module, 10/100M with RJ45 connector, 50 bps to 921.6 Kbps baudrate, 0 to 55°C operating temperature

MiiNePort E3-T: Embedded device server for TTL devices, pin header module, 10/100M with RJ45 connector, 50 bps to 230.4 Kbps baudrate, -40 to 85°C operating temperature

MiiNePort E3-H-T: Embedded device server for TTL devices, pin header module, 10/100M with RJ45 connector, 50 bps to 921.6 Kbps baudrate, -40 to 85°C operating temperature

Available Starter Kits

MiiNePort E3-ST: Starter kit for the MiiNePort E3 Series, module included
MiiNePort E3-H-ST: Starter kit for the MiiNePort E3-H Series, module included

### Package Checklist (modules)

• MiiNePort E3 module

Package Checklist (starter kits)

• MiiNePort E3 module
• MiiNePort E3 evaluation board
• Universal power adaptor
• 2 power cords
• Null modem cable
• Cross-over Ethernet cable
• 2 flat cables
• 1 pack screw and spacer
• Document and software CD
• Quick installation guide (printed)
• Warranty card

10

Embedded Device Servers ˅ Go Ethernet with Thumb-sized Serial-to-Ethernet Solutions

MiiNePort E2-SDK `Preliminary`

MiiNePort E2 software development kit
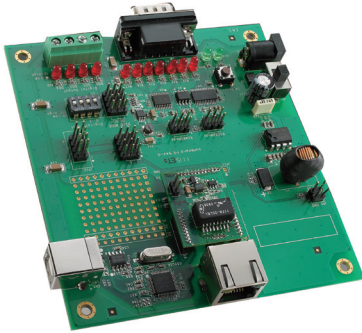
> Eclipse-based integrated software development tool
> Source level debugger
> Various serial-to-Ethernet sample codes
> Mass production tool for easy firmware upload
> Support RealCOM mode operation functions

Overview

MiiNePort E2-SDK is a powerful and versatile software suite for proprietary firmware development on the MiiNePort E2. To expedite time-to-market, the MiiNePort E2-SDK provides comprehensive tools for development, testing, and mass-production. The software development kit includes:

**MiiNePort-IDE** - integrated platform for development of serial-to-Ethernet firmware.

PComm Lite - software application for testing serial and TCP/IP communication/transmission.

Search Utility - search-and-update firmware utility for mass-production of modules and serial devices through simultaneous multiple-unit configurations.

MiiNePort–IDE (Eclipse-based Software Development Tool)

The MiiNePort-IDE is an Eclipse-based platform which includes a powerful source code editor, C/C++ compiler, and source level debugger tool. The MiiNePort-IDE also offers wizard assistance for step-by-step development of SNMP, Telnet, configuration, and application functions. In addition, serial-to-Ethernet sample codes are provided for reference to assist in firmware development. For complex operating modes, such as RealCOM and Ethernet modem, MiiNePort-IDE offers ready-to-run firmware with minimal configuration required.
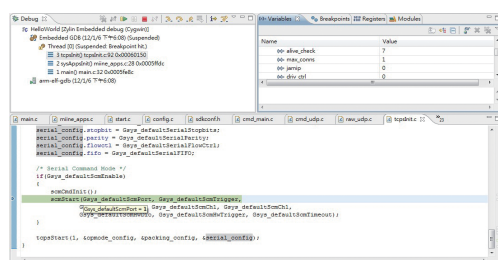
Friendly Interface
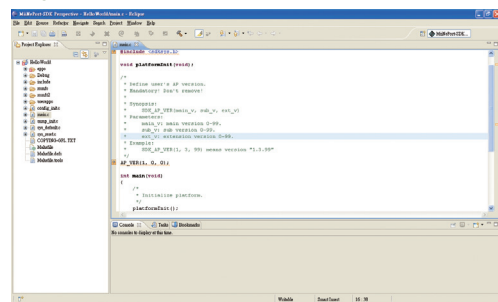
Colorful Tag

Source Level Debug

MOXA®   www.moxa.com ► info@moxa.com

: Specifications

Form Factor
Type: Drop-in module
Dimensions: 29 x 17 x 12.6 mm (1.14 x 0.66 x 0.49 in)

System Information
CPU: 32-bit ARM Core
RAM: 4 MB built in
Flash: 2 MB built in

Ethernet Interface
Number of Ports: 1
Speed: 10/100 Mbps, auto MDI/MDIX
Connector: 6-pin pin header
Magnetic Isolation Protection: 1.5 KV built-in

Serial Interface
Number of Ports: 1
Transmission Format: Standard TTL

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF
Baudrate: (non-standard baudrates supported)
MiiNePort E2: 50 bps to 230.4 Kbps
MiiNePort E2-H: 50 bps to 921.6 Kbps

Serial Signals
TTL: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RST (reset circuit), GND

Digital I/O Pins
GPIO: 4 programmable I/O pins
JTAG Interface: IEEE 1149.1 standard

Software
Network Protocols: ICMP, ARP, IP, TCP, UDP, DHCP, HTTP, SNMP V1, SMTP, TFTP, Auto IP, Telnet, BOOTP
OS: eCos
Software Development Tool: MiiNePort-IDE (Eclipse, Cygwin, Sample Code, Wizard)
Windows Real COM Drivers: Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64, Embedded CE 5.0/6.0, XP Embedded
Fixed TTY Drivers: SCO Unix, SCO OpenServer, UnixWare 7, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x
Linux Real TTY Drivers: Linux kernel 2.4.x, 2.6.x, 3.0.x
Operation Modes: Real COM, Ethernet Modem
Wizard: Project/SNMP/Telnet/SCM/User Configuration

API Function Guide: API Function Helper
Serial/Ethernet Test Tool: PComm Lite (Serial/TCP Server/TCP Client)

Serial to Ethernet Sample Source Code
(Integrated in MiiNePort-IDE):
1. TCP Server Echo
2. TCP Server to Serial (Single connection)
3. TCP Server to Serial (Multi-connection)
4. TCP Client Echo
5. TCP Client to Serial (Startup)
6. TCP Client to Serial (Any character)
7. TCP Client to Serial (Designed destination TCP/IP port from serial)
8. UDP echo
9. UDP to serial

Environmental Limits
Operating Temperature: 0 to 55°C (32 to 131°F)
Storage Temperature: -40 to 75°C (-40 to 167°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements
Input Voltage: 3.3 to 5 VDC (±5%)
Power Consumption: 140 mA @ 3.3 VDC, 92 mA @ 5 VDC input max.

Standards and Certifications
EMC: CE, FCC
EMI: EN 55022 Class B, FCC Part 15 Subpart B Class B
EMS:
EN 55024,
EN 61000-4-2 (ESD),
EN 61000-4-3 (RS),
EN 61000-4-4 (EFT),
EN 61000-4-5 (Surge),
EN 61000-4-6 (CS),
EN 61000-4-8,
EN 61000-4-11
Shock: IEC-68-2-27
Freefall: IEC-68-2-34, IEC-68-2-32
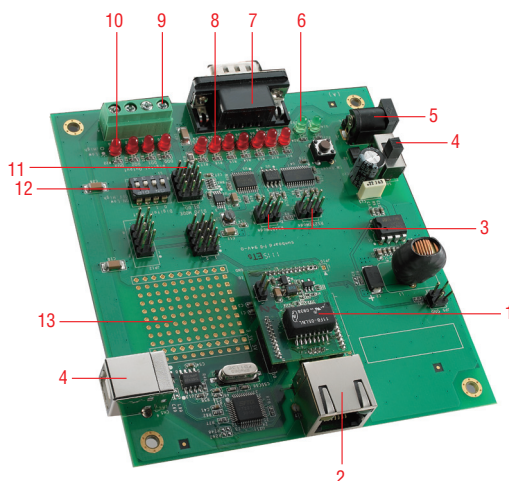**Vibration:** IEC-68-2-6
Green Product: RoHS, CRoHS, WEEE

Reliability
MTBF (mean time between failures): 5,696,350 hrs

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty

: Hardware Evaluation Board

Number	Description
1	MiiNePort E2-SDK Module
2	Ethernet RJ45 Connector
3	Serial Interface Jumper
4	Power Switch
5	Power Jack
6	Power & Ready LED
7	DB9 Male Connector
8	Serial Port Status LED
9	Digital IO Terminal Block
10	Digital Output LED
11	Digital Input/Output Mode
12	Digital Input Switch
13	Circuit Pad
14	USB Type B Connector (Debug)

: Ordering Information

Available Modules

MiiNePort E2-SDK: Software development kit for the MiiNePort E2 Series, MiiNePort E2 module included

MiiNePort E2: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 230.4 Kbps baudrate, 0 to 55°C operating temperature

MiiNePort E2-H: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 921.6 Kbps baudrate, 0 to 55°C operating temperature

MiiNePort E2-T: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 230.4 Kbps baudrate, -40 to 85°C operating temperature

MiiNePort E2-H-T: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 921.6 Kbps baudrate, -40 to 85°C operating temperature

Optional Accessories (can be purchased separately)

Female Socket Connectors: Includes one 1x4 DIP, two 1x10 DIP

Female Socket Connectors

Package Checklist

- MiiNePort E2-SDK module
- MiiNePort E2-SDK evaluation board
- Universal power adaptor
- 2 power cords
- USB cable
- Null modem cable
- Cross-over Ethernet cable
- Documentation and software CD
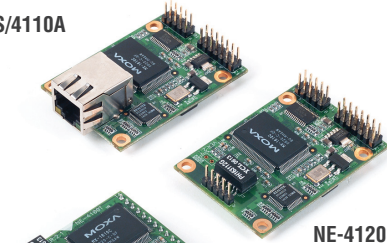- Quick installation guide (printed)
- Warranty card
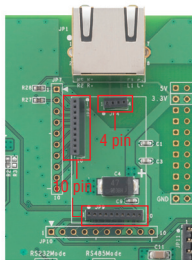
NE-4100 Series

10/100 Mbps embedded serial device servers

NE-4110S/4110A

NE-4120S/4120A

NE-4100T

> 10/100 Mbps Ethernet interface
> Up to 230.4 Kbps baudrate support
> Choice of operation modes: Real COM, TCP Server, TCP Client, and UDP
> DHCP, BootP, Static IP, and ARP supported
> SNMP and e-mail alerts for event trapping and notification
> Half the size of a credit card—only 57 × 40 mm
> Low power consumption at 1.5W, with single +5V input

Overview

Moxa's NE-4100 embedded device servers are designed for manufacturers who want to add sophisticated network connectivity to their serial devices. Moxa's embedded device servers can be used to convert any device with a standard serial interface to an Ethernet-enabled device in no time. The NE-4100 embedded device servers support 10/100 Mbps Ethernet, and provide ready-to-use operation modes, including TCP Server, TCP Client, and UDP. In addition, a Real COM driver is included for backward compatibility with legacy software.

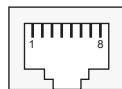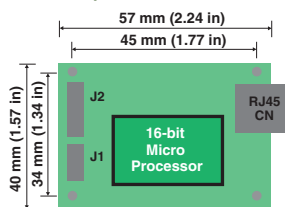## SNMP and E-mail Alerts for Event Trap and Notification

NE-4100 embedded device servers can be configured to send an SNMP trap or e-mail under the following conditions:
- Cold/warm start
- Password authentication failure
- Change in DSR/DCD line signal
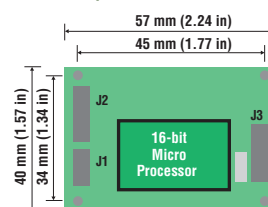- Change in IP address
- Change in password

Dimensions and Pin Assignment

NE-4110S/4110A

PIN	Signals
1	Tx+
2	Tx-
3	Rx+
6	Rx-

NE-4120S/4120A

J3
Ethernet Pin-header

1	Tx+
2	Tx-
3	
4	Rx+
5	Rx-

NE-4110/4120 Series

J2

GND	14	13	VCC(+5V)
GND	12	11	VCC(+5V)
DIO0	10	9	10M_LED
DIO1	8	7	100M_LED
DIO2	6	5	Ready_LED
DIO3	4	3	Reset
TxD1	2	1	RxD1

NE-4110S/4120S

J1

NC	10	9	NC
CTS0	8	7	RTS0
DSR0	6	5	GND
DTR0	4	3	TxD0
RxD0	2	1	DCD0
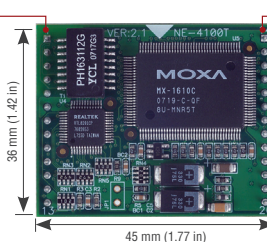
NE-4110A/4120A

J1

NC	10	9	NC
NC	8	7	NC
NC	6	5	GND
RxD- (Data-)	4	3	RxD+ (Data+)
TxD+	2	1	TxD-

For 2-wire RS-485 mode, Pin 3 is Data+, Pin 4 is Data-

NE-4110T

Pin No.	Signal		Pin No.	Signal
1	ETX+		14	PIO0
2	ETX-		15	PIO1
3	ERx+		16	PIO2
4	ERx-		17	PIO3
5	LED 10M		18	LED 100M
6	TxD0		19	DCD0
7	RxD0		20	DSR0
8	RTS0		21	DTR0
9	CTS0		22	GND
10	Reset		23	Ready LED
11	GND		24	+5V
12	GND		25	+5V (45 × 36 mm, 26-pin DIL package,
13	TxD1		26	RxD1 2.54 mm pitch)

36 mm (1.42 in)
45 mm (1.77 in)

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Embedded Device Servers ˅ Go Ethernet with Thumb-sized Serial-to-Ethernet Solutions

10

: Specifications

Form Factor

Type:
NE-4110/4120: Ready-to-go pin header modules
NE-4100T: Drop-in module
Dimensions:
NE-4110/4120: 57 × 40 mm (2.24 x 1.57 in)
NE-4100T: 45 × 36 mm (1.77 x 1.42 in)
Weight:
NE-4110S/4110A: 40 g
NE-4120S/4120A/4100T: 20 g

Ethernet Interface

Number of Ports: 1
Speed: 10/100 Mbps, auto MDI/MDIX
Connector:
NE-4110 Series: RJ45
NE-4120 Series: 5-pin pin header
NE-4100T: 26-pin dual-in-line
Magnetic Isolation Protection: 1.5 KV built-in

Serial Interface

Number of Ports: 2
Serial Standards:
• Port 1:
  NE-4110S/4120S: RS-232
  NE-4110A/4120A: RS-422, RS-485-4w, RS-485-2w
  NE-4100T: TTL
• Port 2:
  TTL console port
RS-485 Data Direction Control: ADDC® (automatic data direction control)

Serial Communication Parameters

Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: DSR/DTR and RTS/CTS (RS-232 only), XON/XOFF
Baudrate: 110 bps to 230.4 Kbps

Serial Signals

TTL:
• Port 1: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
• Port 2: TxD, RxD, GND
RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422: Tx+, Tx-, Rx+, Rx-, GND
RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w: Data+, Data-, GND

Digital I/O Pins

GPIO: 4 programmable I/O pins

Software

Network Protocols: ICMP, ARP, IP, TCP, UDP, DHCP, Telnet, HTTP, SNMP V1/V2c, SMTP
Configuration Options: Web Console, Serial Console, Telnet Console, Windows Utility
Windows Real COM Drivers: Windows 95/98/ME/NT/ 2000, Windows XP/2003/Vista/2008/7 x86/64, Embedded CE 5.0/6.0, XP Embedded
Fixed TTY Drivers: SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x
Linux Real TTY Drivers: Linux kernel 2.4.x, 2.6.x, 3.0.x
Operation Modes: Real COM, TCP Server, TCP Client, UDP

Environmental Limits

Operating Temperature:
Standard Models: 0 to 55°C (32 to 131°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 60°C (-40 to 140°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements

Input Voltage: 5 VDC (±5%)
Power Consumption: 290 mA @ 5 VDC max.

Standards and Certifications

EMC: CE, FCC
EMI: EN 55022 Class B, FCC Part 15 Subpart B Class A
EMS:
EN 55024,
EN 61000-4-2 (ESD),
EN 61000-4-3 (RS),
EN 61000-4-4 (EFT),
EN 61000-4-5 (Surge),
EN 61000-4-6 (CS),
EN 61000-4-8,
EN 61000-4-11
Green Product: RoHS, CRoHS, WEEE

Reliability

Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (mean time between failures):
NE-4100T: 288,173 hrs
NE-4110A: 289,573 hrs
NE-4110S: 290,276 hrs
NE-4120A: 289,573 hrs
NE-4120S: 289,573 hrs

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

: Ordering Information

Available Modules

NE-4110S: Device server module for RS-232 devices, supports 10/100BaseT(x) with RJ45 connector
NE-4110A: Device server module for RS-422/485 devices, supports 10/100BaseT(x) with RJ45 connector
NE-4120S: Device server module for RS-232 devices, supports 10/100BaseT(x) with 5-pin Ethernet pin header
NE-4120A: Device server module for RS-422/485 devices, supports 10/100BaseT(x) with 5-pin Ethernet pin header
NE-4100T: Device server module for TTL devices, supports 10/100BaseT(x) with DIL package
NE-4110S-T: Device server module for RS-232 devices, supports 10/100BaseT(x) with RJ45 connector, -40 to 75°C operating temperature
NE-4110A-T: Device server module for RS-422/485 devices, supports 10/100BaseT(x) with RJ45 connector, -40 to 75°C operating temperature
NE-4120S-T: Device server module for RS-232 devices, supports 10/100BaseT(x) with 5-pin Ethernet pin header, -40 to 75°C operating temperature
NE-4120A-T: Device server module for RS-422/485 devices, supports 10/100BaseT(x) with 5-pin Ethernet pin header, -40 to 75°C operating temperature
NE-4100T-T: Device server module for TTL devices, supports 10/100BaseT(x) with DIL package, -40 to 75°C operating temperature

Available Starter Kits

NE-4110-ST: Starter kit for the NE-4110S and NE-4110A (module not included)
NE-4120-ST: Starter kit for the NE-4120S and NE-4120A (module not included)
NE-4100-ST: Starter kit for the NE-4100T (module not included)
Note: Starter kits do not include the module. Please order modules and evaluation kits separately.

Package Checklist (modules)

• NE-4100 series module

Package Checklist (starter kits)

• Evaluation board
• Universal power adaptor
• 2 power cords
• Null modem cable
• Cross-over Ethernet cable
• Documentation and software CD
• Quick installation guide (printed)
• Warranty card

MiiNePort W1 Series *Preliminary*

Wireless LAN embedded serial device servers

> IEEE 802.11 b/g compatible
> AES, WEP 64/128-bit, WPA, WPA2, PSK, 802.11i security support
> 1 Serial port, up to 921.6k bps
> 1 Ethernet port, 10/100Mbps
> SSL/SSH support for configuration
> Fast roaming to enhance connection reliability

Antenna ordered separately

Overview

The MiiNePort W1 series provides serial to IEEE 802.11 b/g embedded wireless solution with compact size, and ultra low power consumption features. Numerous operation modes are designed to fulfill the requirements of embedded module application. Complete driver support reduces software redesign effort and accelerate time to market.

Specifications

Form Factor
Type: Drop-in module
Dimensions: 44.4 x 44.4 mm (1.75 x 1.75 in)

System Information
Ethernet Interface
Number of Ports: 1
Speed: 10/100 Mbps, auto MDI/MDIX

WLAN Interface
Standard Compliance: IEEE 802.11b/g
Network Modes: Infrastructure mode (b/g), Ad-Hoc mode (b/g)
Spread Spectrum Technology: DSSS, CCK, OFDM
Transmit Power:
IEEE 802.11b: 16 dBm (typical)
IEEE 802.11g: 14 dBm (typical)
Receive Sensitivity: -71 dBm (Min)
Transmission Rate:
IEEE 802.11b: 11 Mbps
IEEE 802.11g: 54 Mbps
Transmission Distance:
Up to 100 meters (in open areas)
Wireless Security:
AES, WEP 64/128-bit, WPA, WPA2, PSK, 802.11i

Serial Interface
Number of Ports: 1
Serial Standards: TTL

Serial Communication Parameters
Data Bits: 7, 8
Stop Bits: 1, 2
Parity: None, Even, Odd
Flow Control: RTS/CTS, XON/XOFF
Baudrate: 50 bps to 921.6 Kbps

Serial Signals
TTL: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

Software
Network Protocols: ICMP, IP, TCP, UDP, DHCP, Telnet, DNS, SNMP V1/V2c/V3, HTTP, SMTP, SNTP, SSH, HTTPS
Configuration Options: Web Console, Telnet Console, Windows Utility, Serial command mode (configured through the data port)
Windows Real COM Drivers: Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7 x86/x64, Embedded CE 5.0/6.0, XP Embedded
Fixed TTY Drivers: SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x
Linux Real TTY Drivers: Linux kernel 2.4.x, 2.6.x, 3.0.x
Operation Modes: Real COM, TCP Server, TCP Client, UDP, RFC2217

Environmental Limits
Operating Temperature:
Standard Models: 0 to 55°C (32 to 131°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Storage Temperature: -40 to 60°C (-40 to 140°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements
Input Voltage: 3.3 to 5 VDC (±5%)
Power Consumption: 400 mA @ 3.3 VDC, 330 mA @ 5 VDC input max.

Standards and Certifications

Safety: UL 60950-1, EN 60950-1
EMC: CE, FCC
EMI: EN 55022 Class A, FCC Part 15 Subpart B Class A
EMS:
EN 55024,
EN 61000-4-2 (ESD),
EN 61000-4-3 (RS),
EN 61000-4-4 (EFT),
EN 61000-4-5 (Surge),
EN 61000-4-6 (CS),
EN 61000-4-8,
EN 61000-4-11
Radio: EN301 489, EN300 328, EN300 893, FCC 15C,
EN61121/EN500 385

Shock: IEC-68-2-27
Freefall: IEC-68-2-34, IEC-68-2-32
Vibration: IEC-68-2-6
Green Product: RoHS, CRoHS, WEEE

Reliability

Automatic Reboot Trigger: Built-in WDT (watchdog timer)

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)

Pin Assignment

Pin	JP3	JP4	JP6	JP7
1	N.C.	Eth_10M_LED	PIO0	LTXD0
2	N.C.	Eth_100M_LED	PIO1	LRTS0
3	N.C.	Eth_Rx+	PIO2	LDTR0
4	RDY_LED	Eth_Rx-	PIO3	LRXD0
5	FLT_LED	Eth_center_tap	PIO4	LCTS0
6	HW_RESET	Eth_center_tap	PIO5	LDSR0
7	SW_RESET	Eth_Tx+	PIO6	LDCD0
8	WLAN_Link	Eth_Tx-	PIO7	N.C.
9	Vin	GND	LTXD1	LCTS1
10	Vin	GND	LRTS1	LRXD1

: Ordering Information

Available Modules

MiiNePort W1: Embedded wireless device module supporting IEEE 802.11 b/g, 0 to 55°C operating temperature

MiiNePort W1-T : Embedded wireless device module supporting IEEE 802.11 b/g, -40 to 85°C operating temperature

Available Starter Kits

MiiNePort W1-ST : Starter kit for MiiNePort W1, module included

Optional Accessories (can be purchased separately)

ANT-WDB-ARM-02 : 2.4/5GHz, Dual band Omni-directional antenna, 2 dBi, R-SMA (male), Dipole

CRF-MHF/SMA(M)-14.2: Mini1.13 cable, MHF to RP-SMA (female), 0.14 meters

ANT-WDB-ARM-02   CRF-MHF/SMA(M)-14.2

Package Checklist (modules)

- MiiNePort W1 series wireless module (Antenna ordered separately)

Package Checklist (starter kits)

- 1 MiiNePort W1 series wireless module
- MiiNePort W1 evaluation board
- Antenna - ANT-WDB-ARM-02
- Antenna - CRF-MHF/SMA(M)-14.2
- 1 cross-over Ethernet cable
- 1 null modem serial cable
- Universal power adaptor
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

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Embedded Device Servers ˅ Go Ethernet with Thumb-sized Serial-to-Ethernet Solutions

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